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ABSTRACT

This paper focuses on the management and change domains of educational technology (ET), namely the need for ET leadership in higher education. Leadership issues are examined with respect to instructional development, faculty development, and instructional technology/media management in higher education and the roles ET practitioners can play. Other topics include: a description of the transformative process underway in higher education driven by technological innovations; raising awareness of the need for ET practitioners and doctoral students to aspire for administrative leadership positions for effective policy formulation, strategic planning, management, evaluation, and implementation of instructional development; and discussion of the essential skills and strategies for achieving ET leadership in colleges and universities. The authors are in favor of ET professionals going beyond providing basic services or merely running equipment distribution units, and advocate leading the change in instructional development, technology integration in the learning process, managing resources and effectively collaborating with faculty in designing instruction. They also advocate for positions that will permit the ET professional to work with institutional leaders in policy-making and in planning for instructional technology deployment, faculty development, and instructional development. The term ET professionals is used to refer to individuals with formal training in the field of ET, instructional technology, instructional media, instructional systems, educational communications and all related areas, and those who have work experience in the field. (Contains 29 references.) (Author/AEF)

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Towards the Transformation of Higher Education: Educational Technology Leadership

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Abstract

This paper focuses on the management and change domains of educational technology, namely the need for educational technology (ET) leadership in higher education. Leadership issues are examined with respect to instructional development, faculty development, and instructional technology/media management in higher education and the roles ET practitioners can play. Other topics include: a description of the transformative process underway in higher education driven by technological innovations; raising awareness of the need for ET practitioners and doctoral students to aspire for administrative leadership positions for effective policy formulation, strategic planning, management, evaluation, and implementation of instructional development; and discussion of the essential skills and strategies for achieving ET leadership in colleges and universities.

We are in favor of ET professionals going beyond providing basic services or merely running equipment distribution units. We advocate leading the change in instructional development, technology integration in the learning process, managing resources and effectively collaborating with faculty in designing instruction. We advocate for positions that will permit the ET professional to work with institutional leaders in policy-making and in planning for instructional technology deployment, faculty development, and instructional development.

The term ET professionals is used to refer to individuals with formal training in the field of educational technology, instructional technology, instructional media, instructional systems, educational communications and all related areas, and who have work experience in the field.

Introduction

"The real question is not whether higher education will be transformed but rather *how* and *by whom*." —James J. Duderstadt (1999)

The emergence of new technologies lead by the popularity of the microcomputer and the ubiquitous nature of communication technologies has brought significant changes to the field of educational technology (ET). These changes are acutely felt in higher education, where Duderstadt (1999) envisions a significant transformation during this decade as colleges and universities respond to their internal changes (Katz, 1999) and the needs of a rapidly changing society (Surry, 1996; Surry & Robinson, 2001). Some notable changes in higher education include: requirements for all students to own laptop computers; incentives for professors to integrate technology into their courses; wireless network campuses; and classrooms equipped for multimedia learning. Technological innovations, in general, are not new, but the accelerated rate of change is moving towards a knowledge-driven future for which many colleges and universities are struggling to prepare.

The rapid changes in technological innovations we are witnessing all around us today are affecting educational institutions and are fundamentally changing the educational needs of society (Surry, 1996). There seem to be the lessening of the initial resistance to the adoption of the new technologies in higher education. The effects of the change induced by the technological innovations in higher education are becoming obvious. Change is not a new phenomenon as most organizations go through such experiences. Change in higher education is inevitable and as Duderstadt (1999) pointed out "the real question is not whether higher education will be transformed but how and by whom". The change, in part, is brought from the outside by technological forces (Daft, 2001). As noted by Siegel (1999) and Doll (1993), higher education is a complex and chaotic social system. The complex nature of higher education has affected the manner and method of adopting the new innovation. Equally, the influence of technological innovations has affected the way business is done in higher education. Some of the areas that have been impacted by the innovations are, faculty training in the use of technology in teaching, innovative learning with technology, and the management of technology in higher education. Administrators in higher education are doing their best to manage the change process.

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Faculty are key stakeholders in the adoption of educational technologies since the changes brought about by such innovations affect either the way students learn or how instructors teach. Campus officials have consistently rated assisting faculty with technology integration as one of the most important information technology issues challenging higher education (Green, 2000). Units that support faculty in their instructional roles, such as audio visual services, instructional media centers, faculty development centers, and centers for teaching excellence, are also undergoing changes in organizational structure, technologies, and functional operation to meet the emerging needs of an educational technology powered campus. Administrators within these units are facing dual challenges to manage a dynamic change process and handle the educational technology innovation. Fullan (1993) and Sparks (1993) assert that leaders in educational institutions need to understand the change process in order to effectively lead and efficiently manage the transformation currently underway. To assist both faculty and administrators in this process, ET practitioners can provide leadership in the adoption and use of technology for the improvement of teaching practice and learning processes.

ET professionals in the field

In a speculative article on the roles of educational technology practitioners in the year 2000, Bratton (1988) wonders if there will be many in this field who will rise to leadership roles. Surry and Robinson (2001) found that many colleges and universities are actively recruiting for positions that require educational technology skills. While most of those positions are for instructional technologists, a few are at a high level of ET leadership, such as director, dean, or vice president of an academic computing unit. Surry (1996) reports that educational technologists are steadily being hired in higher education and in a recent study by Surry and Robinson (2001) they categorized numerous current educational technology job postings. Albright (1995) also reported that administrative positions in higher education are being advertised. This is unprecedented and could be attributed to the technology revolution. However, an important question is, are these positions, particularly those for senior managers, directors, deans, and assistant vice president positions, being filled by ET professionals?

Who is leading?

Many graduates of educational technology programs who hold the master's or doctorate degree seem to take up positions as instructional designers or faculty teaching positions in colleges and universities with titles such as: Instructional Technologist; Instructional Designer; Distance Learning Co-coordinator; Instructional Technology Manager/Administrator; Technical Support Specialist; World Wide Web Specialist; and Instructional Technology Librarian (Surry & Robinson, 2001). As a consequence, the early periods of technology revolution saw them still in their "traditional" roles rather than taking up positions to direct or influence the adoption of innovation in higher education. Such roles are non-agenda setting (Surry, 1996). This is not to say that the positions they hold are inadequate for leadership, however, they may be limiting in terms of the influence they have in directing educational policy issues and in influencing change. The current roles held by ET practitioners can be the starting point for advancement to higher-level administrative and policy-setting positions that provide platform for greater influence on the transformation of higher education.

The technology revolution has created the need for educational technologists in almost every sector of the economy including higher education. Albright (1995), comments that, "in fact we are seeing significant evidence of administrative recognition (with) position announcements for a director or dean to administer a composite of campus-wide educational technology services" being advertised. That is good news for practitioners in this field. Additionally, Surry (1996) reports that educational technologists are being steadily hired in higher education; however, the responsibilities, functions, and qualifications required for these roles are not properly defined. The same question remains, are these positions being filled by ET professionals? While these positions are being advertised, it will be interesting to find out if they are being filled by ET graduates or otherwise by faculty members from different disciplines. Anecdotal evidence suggests that many individuals filling these positions have not had the academic training in educational technology. Faculty from other disciplines seem to dominate administrative leadership and management roles regarding instructional development within colleges and universities, as well as faculty development areas. The implications are that decisions and policies regarding technology integration in the classroom, helping faculty to improve teaching, and the instructional development process across all academic disciplines in higher education are not made by those trained in educational technology.

Wright (1997) found in a study of faculty and instructional development programs in higher education that leaders in these areas seem to emerge from the faculty ranks, irrespective of their primary academic discipline or previous experiences. The study confirms the notion that the appointments to such leadership positions are usually

filled by faculty, who are prepared as specialists in their various fields with little or no training in leadership, technology use, and in the process of teaching and learning (Bates, 1999; Noone & Swenson, 2001). Most are not trained as educational technologists. Therefore, faculty appointments to top ET positions may be the result of a long-standing perception of the roles of ET practitioners by faculty and higher education administrators. Whereas faculty have maintained a strong position as leaders in academic matters, ET practitioners are perceived as providing services to support instruction (Heinich 1995). There seems little room for faculty to negotiate or share the roles. Administrators in higher education do not appear to have demonstrated enough understanding of the roles or potentials of ET professionals.

The Need for Leadership

At any level, there remains a significant role for an educational technology leader in higher education to guide faculty innovations, work collaboratively with faculty and administrators, and lead the efforts towards educational technology change in higher education. As the transformation progresses, faculty need training in the skills that are essential for teaching and learning and with technology, support during the development process, and advice for the effective integration of media and information technologies. While a few ET practitioners in colleges and universities have advanced to leadership positions, entrenched institutional policies and practices unique to higher education present challenges to overcome (Bates, 1999; Green, 1999; and Duderstadt 1999).

A survey of instructional development, academic technology, faculty development, and media services programs in higher education reveals a need for leadership and management of these programs. It does appear that a problem that Spitzer (1987) raised (reported in Galbraith et al, 1990) still persists. Spitzer identified three factors he "believes explain why educational technology has not achieved its potential." One of the reasons he identified was the leadership problem, that is, the dearth of people who will lead to moderate the "quagmire of individuals, groups, and interests that claim a part share in the educational technology enterprise". He noted that a major managerial/leadership gap has not been bridged. Seels and Richey (1994) describe management as one of five domains of the instructional technology field. Galbraith, et al. (1990) add that, "The successful application of technology in education depends not so much on the technology, but how it is managed" A recent study by Johnson (2001) that looked at issues in academic technology leadership in higher education found few ET professional in top leadership positions. Bates (2000), who visited several colleges and universities during a study, states this case precisely and succinctly, "In all the organizations that I visited where technology was being used successfully for teaching, strong leadership was a critical factor. Without leadership and a strong sense of support for change in an organization, the barriers of inertia will be too great".

Effective management of the instructional development process and technologies used in instruction, and the preparation of faculty, will likely result in the efficient use of the technologies, and in the improvement of both teaching and student learning processes. Management implies leadership and by virtue of their placement in leadership positions, ET practitioners are advantageously positioned as change agents, especially as it relates to the use of technology in instruction. As a result of their preparations and understanding of educational systems change, instructional systems approach, and knowledge of learning technologies, educational technologists can exert considerable influence through technology in reshaping educational settings. Roberts (1994) argues that technology and educational reform or restructuring is "inexorably" linked and that merely deploying technology in schools cannot cause educational reform. The changes called for cannot occur in isolation or by simply acquiring new technologies. In the higher educational system, change is best implemented from within. There is need in education for systemic thinking as the newer technologies are introduced. Introducing innovation and managing change in higher education, we believe, requires individuals who have established credibility within the institution; understand the idiosyncrasies of academic environments; support the role and use of technology; respect the instructional design process, and possess skills in change.

The focus here is on leadership. We do recognize the importance of management functions and other roles that ET professional play, they are all essential for the success of the learning enterprise. While management and leadership seem synonymous, we have emphasized leadership, as many seem to agree that it provides a broader perspective, fosters a holistic view on issues, enlarges vision, engenders viewing issues from systemic point of view, and provides better opportunity for change sponsors and agents for the betterment of the organization, and such that will appeal to the organizational stakeholders. The leader directly or indirectly influences and motivates individuals with inspiring examples. Leaders are expected to shape the culture of an organization by creating new visions. Kearsley and Lynch (1994) add that the success of leaders is determined by their ability to understand and influence organizational cultural mores and values. When followed, the course that the leader charts will ultimately profit the

organization, and in this case higher education. Management, though equally good, tends to focus on details in their work environments and to compartmentalize.

Unique Qualities of ET Professionals

We do believe that by the nature of their training and experience, ET practitioners can work well with faculty in improving instruction in higher education, as well as working effectively to manage educational technology change in higher education. ET practitioners can work well as change sponsors, change agents and change advocates in initiating and implementing change in higher education. Rather than be seen as encroaching into the faculty domain of instructional delivery, they can co-exist as partners in the effort for instructional development and integration of technology in instruction. To better address this issue will require an understanding of the preparation, roles, function, and abilities of the ET practitioners in instructional development and managing change. Their training focuses on instructional design and development, media use in instructional or performance improvement, educational and learning theories, technologies of instruction, as well as educational systems design. Some programs are adding change management, organizational development, and management courses. These skills equip them to view issues systemically and holistically, and to provide the appropriate interventions.

The Educational Technologist: A Change Agent for Higher Education

This seems to be the right direction for higher education in its efforts to either manage or implement successful technological change initiatives. People who are familiar with higher education seem to view the issue from the same perspective. Bates (2000) advocates that the best approach for colleges and universities is to create the position of "associate vice president, academic, with overall responsibility for academic technology issues, probably as part of a larger unit for teaching and learning." This position will collaborate with the information technology group and similar on-campus organizations to manage instructional technology, administer faculty training, and design instruction for better student learning. Dillon and Walsh (1992) identify leadership as the foundation on which change rests. Kearsley and Lynch, (1994) summarize, "Technology leadership is inherently linked to innovation and this provides unique consideration. While leadership usually involves dealing with change, technology leadership deals almost exclusively with new procedures, policies, and situations". They identified the potential benefits of good technology leadership, that includes, "improved academic achievement by students, improved student attendance and reduced attrition, better vocational preparation of students, more efficient administrative operations, reduced teacher/staff burnout and turnover". An addition to the laudable list is better support and training for faculty. For educational technology leadership, having a clear vision of how the educational technology innovation would be adopted to produce the desired changes for the maximum benefit of the institution is an essential requirement. The implications for the ET practitioner is that only when they aspire for and move into such leadership positions can they wield the necessary influence that will support the better adoption of new technologies that will have profound impact in the teaching and learning process in higher education.

Aspiring for Leadership Positions

It behooves ET practitioners to strive for the leadership positions when such positions become available. A content analysis of recent position announcements in higher education confirms other findings (Albright, 1995; Wright 1997; Surrey and Robinson, 2001; Johnson, 2001) that leadership positions are gradually opening up. As stated previously, ET practitioners hold a small proportion of the positions. Romiszowski (1994) points out that as educational technology practitioners, we have a great deal of experience in evaluating and designing systems for patrons and little experience in designing for ourselves. It appears, from current trends and the positions many practitioners hold, that many of those in leadership are not playing the sponsor role in the change process. As Salisbury and Conner (1994) point out, "to successfully champion change in education, advocates must first realize that they cannot initiate change until they have obtained sponsorship. Advocates without sponsors result in conferences and good intent but not substantive change".

Being in the right leadership position will permit the ET practitioner to function not only as change agents and advocates, but also play the role of change sponsors. The advantage of being a sponsor is that it puts the practitioner in direct control to initiate change. A change sponsor is, "a person or group who has the authority and legitimizes a change" (Lick and Kauffman, 2001). Further, the change agent is a person or group who is responsible for implementing desired change. Examples in higher education include: chancellor, VP, Dean, program/division

director, among others. Lick and Kaufman (2001) advocate that leaders need to provide and implement "a detailed, structured, disciplined transition plan for identifying and completing the major change".

The roles that ET practitioners seem to have played for a long time are the roles of change advocates and targets. As advocates, they train and encourage faculty and others to use technology. As targets, they change or reposition themselves with any wave of technology for pedagogy that is in vogue. In these roles, they have lacked the authority to initiate, plan, implement, and evaluate technological change in the teaching and learning environment, in part because they are not playing the sponsor role in the change process.

For educational technology leadership, possessing a clear vision of how the educational technology innovation would be adopted to produce the desired changes for the maximum benefit of the organization is an essential requirement. Kearsley and Lynch (1994) add a perspective that the success of leaders is determined by their ability to understand and influence organizational cultures. The role of a leader is more than management of resources. As opposed to a manager, who may tend to be compartmental in their operation, the leader is more holistic and tends to view issues from a systemic perspective. Leaders are expected to shape the culture of an organization by creating new visions for organizational improvement in such a manner that will appeal to the key stakeholders. The implication is that when the ET practitioner assumes this kind of leadership position, they can then utilize the necessary influence to support effective adoption of educational technology systems in higher education

Moving into Leadership

Implications

The dual role of ET practitioners in instructional design and leadership comes with added responsibilities and calls for additional sets of skills (e.g., project management, consulting, change management) that may not be a component of the ET graduate curriculum and new knowledge domains not usually associated with educational technology (e.g., administration in higher education, educational leadership, educational theory and policy). With the necessary preparations, educational technologists can exert considerable influence through technology in reshaping educational settings.

Moving into leadership positions as they become available requires preparation on the part of the ET practitioner. Although they possess the basic skills as a result of their training, ET professionals constantly need to update their skills especially for management and leadership in order to align themselves to the opening positions. The need for constant update of skills and for the acquisition of new skills is essential in view of the constantly changing dynamics in today's work environment, including higher education (Gilliland and Tynan, 1997). This calls for change in behavior in those aspiring for leadership or administrative positions in ET to transcend the acquisitions of traditional skills and competencies for instructional designers and reach for the skills that will propel them to leadership positions. Both practicing ET practitioners and those graduating from ET programs need to be cognizant of the requirements for the new leadership positions and to prepare accordingly.

It must be mentioned that moving up to the leadership positions will have its challenges and obstacles. Such positions are often fraught with politics and thereby requires understanding and adaptation to the organizational culture (Rossett 2000). As Creth (2000) observes, "Unlike deans, department heads, and faculty in academic programs, administrators in non-academic service areas...do not enjoy the protection of tenure as they cope with the inherent risks of change." However, the problems are not more challenging than being in supervisory or non leadership positions that lack the provision of sufficient resources to discharge their duties and protection from the consequences of working in a complex environment.

Benefits

Much benefit accrues with ET professionals moving up into leadership positions. The institution, faculty, students, and the ET professionals will all mutually benefit. The processes that are likely to be put in place will better advance the missions of the respective institutions. As stated earlier, technology adoption efforts, faculty development issues, and instructional development process will be approached from systemic and holistic standpoints. Policy issues regarding these areas will involve those that understand the ramifications of the policies in the area, as well as implications of wrong policies. This will help to foster better relationship among campus groups involved in the use technology in the teaching and learning process.

Recommendations: Preparing for educational technology leadership

Before assuming any leadership role, the educational technology practitioner must be adequately prepared with a broad array of interpersonal skills and abilities in management and leadership (Surrey, 2001). Academic or professional preparations beyond the usual boundaries of educational technology should include topics in: organizational change and theory; higher education administration; educational theory and policy; workforce education; and management science and theory.

ET programs

To better prepare students to meet the new demands, educational technology programs may need to focus on those skills that will equip graduates to assume leadership roles and function better in higher education. In addition to the requirements in preparing students for faculty positions, a track may need to be established. Courses that will help students develop the requisite skills in leadership, management and understanding of organizational set ups (Rossett, 2000), change management, educational systems design, and project management. Surrey and Robinson (2001) also suggest that for those interested in positions in higher education, technological and interpersonal skills are very much desired. Some of these could be achieved by collaborating with other departments/programs to offer relevant courses or to organize workshops and seminars. These will not be added to the detriment of the core instructional development focus of the programs. Rather, it will be in addition to all those competences that have been the hallmark of educational technology programs.

ET Students

Students in ET programs who desire to move into leadership positions upon graduation may begin early in their programs to prepare. In addition to taking relevant courses, they need to be familiar with current positions, job descriptions and entry requirements as they prepare. They need to have the traditional competencies for educational technologists. It will be helpful to stay current with trends and to position themselves for the desired positions.

ET Professionals

This will lead to the expansion of the roles of ET professionals. It will result in moving from service support roles to roles that will be involved in looking at instructional and technological problem holistically. To be in a better position to be successful and to handle the challenges, ET professional will need to be prepared. Some of the possible ways to prepare include being involved in professional development, going for an advanced degree if necessary, supporting current superiors, being current, having a vision and a plan for the new career direction, and staying current in the field. Try your hands on playing leadership role before your friends and others whenever the opportunity calls. The old art of networking should not be neglected. This is not an exhaustive list but a beginning guide for the professionals.

Conclusion

Higher education is changing by gradually responding to the change brought about by technology and other related forces. Colleges and universities have a distinctive culture that characterize or define them. Equally, units within the organization, which could be described as subsystems, exhibit distinctive culture that is a result of their profession. Change resulting from adoption of learning technology will evidently affect change in other areas because of the interrelatedness of the various subsystems and the complexity of higher education as a social system. Such intricate and complex process needs to be addressed by professionals who understand the systems and can provide a holistic intervention. It is our view that ET professionals can help higher education significantly in this era of transition.

Many institutions have invested heavily in information technology, and as a result questions about the effectiveness of technology are being asked. During the period of acquiring technologies, many institutions did not have any policies or any instructional technology plan. In the early days of the new media, many institutions did not seem to have any plans as to what technologies are needed and how to use them in instruction. A lesson to be learned is that merely acquiring assorted technologies does not translate into good instruction. Equally, using technology in an adjunct or desultory manner may not achieve the desired learning outcomes. Having a sound technology plan and working with faculty to redesign instruction to accommodate the new delivery systems, under the leadership of ET professionals will be beneficial in enhancing the teaching and learning process as well as

advance the mission of the institution. With the properly prepared ET professional in place, higher education will be on the road to realizing the promise of technology in this evolving era in education.

The increased involvement of ET professionals in educational technology leadership as well as other service areas will help higher education as it strives to enhance faculty teaching, and technology skills, and consequently improve student learning. The need for the preparation of leaders in educational technology is encouraged by current trends that suggest that some in the field are making inroads into the leadership and management cadre. Educational technology practitioners are gradually advancing in position, heading ET departments and holding other administrative positions.

It is hoped that this paper will draw the attention of ET practitioners, faculty, and students to the necessity to strive towards leadership positions in higher education. Educational technology graduate programs may in response develop specializations in higher education leadership and management. Increased numbers of ET trained administrators and faculty with interest in ET leadership in colleges and universities would be a boost to the field. The technological transformation of higher education will proceed regardless of whether ET practitioners are leading the change. It would be beneficial for all stakeholders in colleges and universities if ET graduates assume the leadership positions that make key decisions that, in turn, influence future generations of college graduates, ET practitioners, and hopefully faculty, who continue the cycle.

ET leaders will also help in seeking and selecting the right ET professionals who are well prepared to meet the needs of the institutions. A look at many job announcements for instructional technologist/designer position seems to emphasize more on hardware and software skill, and less, sometimes, no instructional design skills are listed. This may probably be symptomatic of the lack of understanding of the roles and functions of ET professionals and the sets of skills and competencies they bring along. ET professionals in leadership can help to address such problems, as well as work towards the standardization of job descriptions for ET positions.

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